

## REMARKS

Reconsideration of the instant application is respectfully requested in view of the amendments above and the following remarks. No amendments to the claims have been made. The specification is amended to perfect the claim of priority. The petition for perfecting the claim of priority is submitted with this Response.

### **A. Examiner's comments regarding Response to Restriction/Election Requirement**

Applicants respectfully disagree with the Examiner's misinterpretation of Applicant's response, namely, with the Examiner's conclusion that SEQ ID NOs 1-8 are obvious over each other. See *Office Action* at 2.

The fact that two sequences share certain functional and structural characteristics does not make them obvious over each other. The test of obviousness of the species recited in the Markush claim is articulated in MPEP § 803.02, which states that

[a] Markush-type claim may include independent and distinct inventions. This is true where two or more of the members are so unrelated and diverse that a prior art reference anticipating the claim with respect to one of the members would not render the claim obvious under 35 U.S.C. 103 with respect to the other member(s).

In the instant case, fragments of LMP-1 or LMP-3 proteins are not obvious over the prior art references cited by the Examiner. For example, how would one of skill in the art know or guess SEQ ID NO: 7 armed only with the knowledge of LMP-1 sequence disclosed, e.g., in Hair? Accordingly, Applicants respectfully maintain that sequences recited, e.g, in claim 34 are not obvious over each other.

### **B. Rejections based on 35 U.S.C § 103**

With respect to rejections based on Hair (U.S. Patent 6,300,123) and Boden (Endocrinology 1998, 139(12): 5125-5134), Applicants respectfully note that the specification of the instant application has been amended to perfect the priority of the instant application. As a result, Boden and Hair cited by the Examiner, are not proper prior art references. For these reasons, Applicants respectfully request the Examiner to withdraw these grounds for rejection.

**C. Double Patenting Rejections.**

The Examiner rejected the claims of the instant application under the obviousness-type double patenting doctrine as unpatentable in view of a combination of Nagahara and either U.S. Patent 6,858,431 or U.S. Patent 6,521,750. Applicants respectfully request that these rejection be held in abeyance until all other rejection grounds are removed.

**D. Miscellaneous**

Applicants submit a list of co-pending applications and issued patents assigned to the assignee of the instant application. This list is attached hereto as Exhibit A.

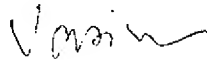
Submission of this list should not be construed as an admission that the claims of the instant application and the claims of the applications or patent listed in Attachment A are co-extensive or obvious over each other.

**CONCLUSION**

Applicants believe that they have fully responded to the Examiner's concerns, and the claims of the instant application are in condition for allowance. Applicants request that any questions concerning this matter be directed to the undersigned at (609) 844-3021.

Please charge any deficiency and/or credit any overpayment to Deposit Account No. 50-1943. Thank you for your kind consideration in this matter.

Respectfully submitted,



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# **EXHIBIT A**

| <b>PAT. NO.</b> | <b>Title</b>   |
|-----------------|--|
| 1 7,252,685     | Fusion implant and method of making same                                       |
| 2 7,172,629     | Osteogenic paste compositions and uses thereof                                 |
| 3 7,045,614     | LIM mineralization protein splice variants                                     |
| 4 7,045,125     | Biologically active composites and methods for their production and use        |
| 5 7,018,415     | Expandable spinal fusion device and methods of promoting spinal fusion         |
| 6 6,890,728     | Methods of isolating blood components using a microcentrifuge and uses thereof |
| 7 6,858,431     | Bone mineralization proteins, DNA, vectors expression systems                  |
| 8 6,521,750     | Bone mineralization proteins, DNA, vectors, expression systems                 |
| 9 6,444,803     | Bone mineralization proteins, DNA, vectors, expression systems                 |
| 10 6,300,127    | Bone mineralization proteins, DNA, vectors, expression systems                 |

| <b>PUB. APP. NO.</b> | <b>APP. SERIAL NO.</b> | <b>PUB. APP. NO.</b> |  |
|----------------------|------------------------|----------------------|--|
| 1 20070276489        | 11/835,091             |                      | Fusion implant and method of making same   |
| 2 20070259030        | 11/418,948             |                      | Methods, systems and reagents for tendon and ligament therapy  |
| 3 20070243228        | 11/403,733             |                      | Drug depot implant designs and methods of implantation   |
| 4 20070243225        | 11/734,618             |                      | Drug depot implant designs and methods of implantation   |
| 5 20070191591        | 11/633,963             |                      | Smurf1 independent mechanism of osteoinduction of LMP-3 protein  |
| 6 20070190572        | 11/607,348             |                      | Methods and kits using a molecular interaction between a Smurf-1 WW domain and LIM mineralization protein isoforms |
| 7 20070134218        | 11/602,805             |                      | Methods of inducing or increasing the expression of proteoglycans such as aggrecan in cells                        |
| 8 20070128249        | 11/670,804             |                      | Osteogenic paste compositions and uses thereof   |
| 9 20070116689        | 11/433,059             |                      | LIM mineralization protein splice variants   |
| 10 20070099176       | 11/545,349             |                      | Methods of expressing LIM mineralization protein   |
| 11 20070027081       | 11/385,612             |                      | Mechanisms of osteoinduction by LIM mineralization protein-1 (LMP-1)   |
| 12 20070009493       | 11/443,387             |                      | Chondrogenic compositions and methods of use   |
| 13 20060293757       | 11/158,924             |                      | Osteograft treatment to promote osteoinduction and osteograft incorporation  |
| 14 20060259006       | 11/118,125             |                      | Devices and methods for delivering medical agents  |

- 15 20060149385 11/332,959 Expandable spinal fusion device and methods of promoting spinal fusion
- 16 20060046961 11/091,348 Controlled and directed local delivery of anti-inflammatory compositions
- 17 20060046960 10/932,878 Controlled and directed local delivery of anti-inflammatory compositions
- 18 20060019392 10/951,236 Novel bone mineralization proteins, DNA, vectors, expression systems
- 19 20050130301 10/887,275 Isolation of bone marrow fraction rich in connective tissue growth components and the use thereof to promote connective tissue formation
- 20 20040249471 10/455,760 Fusion implant and method of making same
- 21 20040197867 10/806,915 Intracellular delivery of osteoinductive proteins and peptides
- 22 20040064058 10/399,836 Methods and instruments for treating pseudoarthrosis
- 23 20040034428 10/399,830 Spinal fusion methods and devices
- 24 20040002558 09/923,117 Osteogenic paste compositions and uses thereof
- 25 20030225021 10/382,844 Methods of inducing the expression of bone morphogenetic proteins (BMPs) and transforming growth factor-beta proteins (TGF-betas) in cells
- 26 20030180266 10/292,951 Methods of expressing LIM mineralization protein in non- osseous cells
- 27 20030125248 09/986,625 Novel bone mineralization proteins, DNA, vectors expression systems
- 28 20020182664 10/116,729 Methods of isolating blood components using a microcentrifuge and uses thereof
- 29 20020127720 10/035,797 Biologically active composites and methods for their production and use
- 30 20020086987 09/986,621 Novel bone mineralization proteins, DNA, vectors, expression systems
- 31 20020082694 09/923,116 Highly-mineralized osteogenic sponge compositions, and uses thereof